

Claims

1. Method for detecting period length fluctuations of a periodic first signal (1) and/or of a periodic second
5 signal (2), whereby the period length (4) of the second signal (2) is shorter than the period length (3) of the first signal (1) and a reference number (m) of the periods of the second signal (2), which arise in the time-span of a base number of periods of the first signal (1) is obtained,
10 characterised in that a first reference number (m0) for a first period length of the second signal (2) and a second reference number (m) for a second period length, different from the first period length, of the second signal (2) are determined and dependent on the first and second reference
15 number (m, m0) a measure for the period length fluctuation of the first signal (1) and/or of the second signal (2) is calculated.
2. Method according to Claim 1, characterised in that the
20 reference numbers (m0, m) are determined several times.
3. Method according to Claim 2, characterised in that as a measure for the period length fluctuation of a signal (1, 2) the standard deviation of period lengths of the signal
25 (1, 2) is determined.
4. Method according to any one of the preceding claims, characterised in that the first period length of the second signal (2) is selected in such a manner that the effect of
30 the period length fluctuation of the first signal (1) is greater than the effect of the period length fluctuation of the second signal on the first reference number (m0).

5. Method according to any one of the preceding claims, characterised in that the second period length of the second signal (2) is selected in such a manner that the effect of the period length fluctuation of the first signal (1) is less than the effect of the period length fluctuation of the second signal (2) on the second reference number (m).

6. Method according to any one of the preceding claims, characterised in that the base number of periods of the first signal (1) is 1.

7. Method according to any one of the preceding claims, characterised in that the first signal (1) is the output signal of a phase-locked loop (5) and the second signal (2) is the output signal of a reference oscillator (6).

8. Method according to any one of the preceding claims, characterised in that the method is carried out in an integrated semiconductor as a self-test.

9. Method according to any one of the preceding claims, characterised in that at the start of determining a reference number (m_0 , m) the first signal (1) and the second signal (2) are in phase.

10. Method according to any one of the preceding claims characterised in that the period length fluctuation of the first signal (1) and/or of the second signal (2) is additionally determined dependent on previously calculated regression coefficients (CA, CB).

11. Apparatus for detecting period length fluctuations of a periodic first signal (1) and/or a periodic second signal (2), whereby the period length (4) of the second signal (2) is shorter than the period length (3) of the first signal (1) and the apparatus is designed in such a way that it can determine a reference number (m_0 , m) from periods of the second signal (2), which arise in the time-span of a base number of periods of the first signal (1), characterised in that the apparatus is designed in such a manner that it can determine a first reference number (m_0) for a first period length of the second signal (2) and a second reference number (m) for a second period length, different from the first period length of the second signal (2), and dependent on the first reference number (m_0) and the second reference number can calculate (m) a measure of the period length fluctuation of the first signal (1) and/or of the second signal (2).

12. Apparatus according to Claim 10, characterised in that the apparatus has a reference oscillator (6) for producing the second signal (2).

13. Apparatus according to Claim 10 or 11, characterised in that the apparatus has a phase-locked loop (5) and is designed in such a manner that the output signal of the phase-locked loop (5) is the first signal (1).

14. Apparatus according to any one of Claims 10 to 12, characterised in that the apparatus is an integrated semiconductor.

15. Apparatus according to any one of Claims 10 to 13, characterised in that the apparatus is designed for

carrying out a method according to any one of Claims 1 to 9.